SLOVENSKI PREDSTANDARD

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november 2005

Električna varnost v nizkonapetostnih razdelilnih sistemih izmenične napetosti do 1 kV in enosmerne napetosti do 1,5 kV – Oprema za preskušanje, merjenje ali nadzorovanje zaščitnih ukrepov – 2. del: Izolacijska upornost

Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. – Equipment for testing, measuring or monitoring of protective measures – Part 2: Insulation resistance

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COMMITTEE DRAFT FOR VOTE (CDV)
PROJET DE COMITÉ POUR VOTE (CDV)

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Secretary: Mr. Bo CHEN Secrétaire:		
Also of interest to the following committees Intéresse également les comités suivants	Supersedes document Remplace le document 85/251/CD and 85/262/CC	
Functions concerned Fonctions concernées ☐ Safety / Sécurité ☐ EMC / CEM ☐ Environment / Environnement ☐ Quality assurance / Assurance qualité		

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Titre :

Title : IEC 61557-2 Ed. 2.0: Electrical safety in low voltage distribution systems up to 1000 V a.c. and 1500 V d.c. - Equipment for testing measuring or monitoring of protective measures - Part 2: Insulation Resistance

Note d'introduction

Introductory note

ATTENTION	ATTENTION
CDV soumis en parallèle au vote (CEI) et à l'enquête (CENELEC)	**Parallel IEC CDV/CENELEC Enquiry**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTRICAL SAFETY IN LOW VOLTAGE DISTRIBUTION SYSTEMS UP TO 1000 V a.c. AND 1500 V d.c. – Equipment for testing, measuring or monitoring of protective measures –

Part 2: Insulation resistance

FOREWORD

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International Standard IEC 61557-2 has been prepared by IEC technical committee 85: Measuring equipment for electrical and electromagnetic quantities.

The text of this standard is based on the following documents:

FDIS	Report on voting
85/xx/FDIS	85/xxx/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This part of IEC 61557 shall be used in conjunction with part 1.

The committee has decided that the contents of this publication will remain unchanged until **2010.** At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

ELECTRICAL SAFETY IN LOW VOLTAGE DISTRIBUTION SYSTEMS UP TO 1000 V a.c. AND 1500 V d.c. – Equipment for testing, measuring or monitoring of protective measures –

Part 2: Insulation resistance

1 Scope

This part of IEC 61557 specifies the requirements applicable to equipment for measuring the insulation resistance of equipment and installations in the de-energized state.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61557. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 61557 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 61010-1: 2001, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements*

IEC 61557-1: 1997, *Electrical safety on low voltage distribution systems up to 1000 V a.c. and 1500 V d.c. – Equipment for testing, measuring or monitoring of protective measures – Part 1: General requirements*

3 Definitions

For the purposes of this part of IEC 61557, the definitions given in IEC 61557-1 and the following definitions apply.

3.1 **nominal output voltage (U_N):** ~~Minimum v~~Voltage output across the measuring equipment terminals when this equipment is loaded with the nominal current

3.2 **nominal current (I_N):** Current of the measuring equipment under nominal conditions

4 Requirements

The following requirements as well as those given in IEC 61557-1 shall apply.

4.1 The output voltage shall be a d.c. voltage; the indication at the nominal output voltage across a resistor of a value of $U_N \times (1000\ \Omega/V)$ shall not differ by more than 10% relative to the indicated value, as a result of possibly present a.c. voltage components in the output voltage, when a capacitor of ~~5~~ 2 μF is connected in parallel with the insulation resistance to be measured.

4.2 The open-circuit voltage shall not exceed 1.25 times the rated output voltage.

4.3 The nominal current shall be at least 1 mA.

4.4 The measuring current shall not exceed 15 mA peak. Any a.c. component present shall not exceed 1.5 mA peak.

4.5 The maximum percentage operating ~~error~~uncertainty within the measurement range to be marked or stated shall not exceed ±30% with the measured value as fiducial value, as determined in accordance with table 1.

The operating ~~error~~uncertainty shall apply under the rated operating conditions in accordance with
IEC 61557-1.

4.6 The user shall not be subjected to danger, when extraneous d.c. or a.c. voltages up to 120% of the highest nominal ouput voltage are accidentally applied for a duration of 10 s to the measurement terminals of the measuring equipment.

4.6.1 When the measuring equipment bears one of the following markings, the applied extraneous a.c. overvoltage can be reduced to a voltage of 1.1 times the phase to phase voltage:

a) DO NOT USE IN DISTRIBUTION SYSTEMS WITH VOLTAGES HIGHER THAN ... V.

The marking shall be written in the corresponding country language.

The value of the voltage shown on the marking shall be 1.1 times the maximum phase to phase voltage.

or

b)

Example of pictogram
for a 500 V a.c. system

Pictogram and outline contrasting to the background

The value of the voltage shown on the marking shall be 1.1 times the maximum phase to phase voltage.

After applying this reduced a.c. overvoltage, the equipment shall stay within the specification.

5 Marking and operating instructions

5.1 *Marking*

In addition to the marking in accordance with IEC 61557-1, the following information shall be provided on the measuring equipment.

5.1.1 Nominal output voltage.